

How is Performing Cancer Prevention Program in Albania? Implications for Policy Makers

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KEYWORDS

Cancer, screening, evaluation, prevention, policy-making, Albania.

ABSTRACT:

Background: In Albania, non-communicable diseases (NCDs) are estimated responsible for 89% of all deaths, whereas cancer constitute 20% of them. There is a dramatic increase of neoplasm accounting from 60 to 251 deaths per 100 000 inhabitants from 1993 until 2019.

Aim: The aim of the study is to evaluate cancer prevention program in Albania and provide insights for policy makers' improvement strategies. This study will address the following research questions: Does Albania has drafted policies, strategy and action plan for cancer prevention; Does strategy, policies and documents drafted by Ministry of Health and Social Protection reflect rational solutions for prevention, healthcare and treatment of patients with cancer; Does Albania has a real time and functional monitoring and evaluation system in place for cancer prevention program in order to assess output of the programme.

Material and Method: Materials and methodology used is literature review and several databases like: PubMed, WHO, Ministry of Health and Social Protection of Albania (MoHSPA), Albanian Institute of Statistics (AIS), Institute of Public Health of Albania (IPHA), Albanian Supreme Audit Institution (ALSAI), are utilized to search for relevant articles, reports and policy papers with keywords; cancer, prevention, screening, program, Albania.

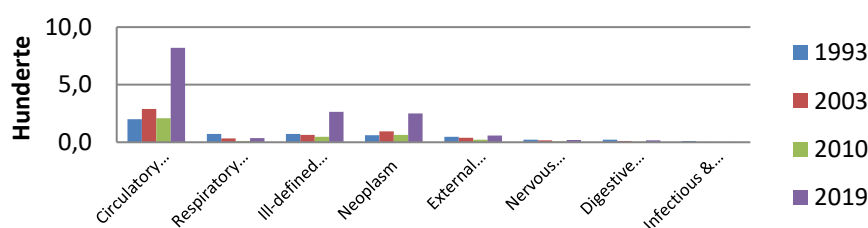
Results and Discussion: Albania has drafted several policy papers in order to reach the Sustainable Development Goal - SDG 3, regarding Good Health and Wellbeing which explicitly aims to reduce mortality related to non-communicable diseases, including cancers. However, there is lack of the transparent and comprehensive system for measuring, monitoring and reporting about progress towards fulfilment of objectives. National Register of Cancer (Albania) NRC does not update data on new cases, progress of cancer disease and mortality in progressive manner thus creating delays in complex aspects of the entire screening process.

Conclusions and Recommendation: Albania needs to improve the NRC and Reporting System, in order to supply updated data on new cases, progress of cancer disease and mortality, for assessment of effectiveness of these programs in order to ensure that the benefits of screening outweighs the, and incorporate into "evidence-based policy" decisions.

BACKGROUND

Albania is located in western part of Balkan Peninsula, a middle income country with a population of 2.402.113 [INSTAT CENSUS 2023]. In Albania, non-communicable diseases (NCDs) are estimated to cause 89% of all deaths, respectively; cardiovascular diseases 57%, cancer 20%, chronic respiratory diseases 3%, diabetes 1% and other NCDs 12% [WHO 2018]. Albania did change political system in 1992, by shifting from communist regime in democratic system. As consequence, economical system changed into market economy, by affecting the way of life of Albanians. During last 30 years in Albania has changed pattern of population distribution of mortality referred as epidemiological transition [McKewon 2009].

Causes of Deaths by Group-Diseases



Graph no.1: Causes of deaths by group diseases (per 100,000 inhabitants). [Source : MoHSPA 2019]

Consequently, there is an increase fourfold, from 1993 until 2019, of circulatory system disease accounting from 201 to 820 deaths and neoplasm from 60 to 251 deaths per 100.000 inhabitants (graph no.1) [MoHSPA 2019].

There is a growing understanding, that in order to achieve strong national health outcomes, particularly in the face of growing chronic disease burdens, it is critical to build a proactive, rather than a reactive culture in which health is more than just the absence of illness [Trujillo & Plough 2016; Weil 2016].

Creating a culture of prevention, particularly if this serves to reduce national chronic disease burdens, may also achieve strong health gains at a relatively lower cost [Makara & Nemeth 2009]. Such ambitious efforts are by necessity multifaceted, looking broadly across social-ecological context and considering interpersonal, social, organizational, political, and cultural determinants [Trujillo & Plough 2016; Stokols 1996; Sentel et al., 2018]. Access to basic, primary, and preventive care is a critical component of a nationwide culture of prevention [Ford & Capewell 2011]. Regular access to screening, patient education, promotion of healthy behaviours, and self care for middle aged adults can obtain health rewards later in life when non-communicable diseases risk increases dramatically [Ford & Capewell 2011].

Importance of prevention

Meanwhile, in 2017, European Union leaders proclaimed the European Pillar of Social Rights. Its principle states that "Everyone has the right to timely access to affordable, preventive and curative health care of good quality" [OECD 2023]. It is famous quote of Benjamin Franklin "One ounce of prevention is worth one pound of cure", which fits very well with public health intervention.

Natural history of disease has three stages: pathologic onset, pre symptomatic stage and clinically manifest disease [Last 2014]. Based on these three stages, there are three different level of prevention: primary prevention through health promotion and preventive care, secondary prevention through screening programs, and tertiary prevention through rehabilitation and maintenance care [Tulchinsky & Varavikova 2023]. The goal of cancer screening is to detect cancer or precancerous lesions in asymptomatic individuals at a point when cancer is more likely to be prevented or cured than if the patient waited for symptoms to develop [Morrison 1992]. Accordingly, in order to reach even this cost-effective benefit, and because of evidence based etiologic link between carcinogenic HPV and cervical cancer, 2 major approaches for cervical cancer prevention have been designed: 1) primary prevention by HPV vaccination; 2) secondary prevention (screening) with the purpose of diagnosing and proper medical management of the women with cervical precancerous lesions and early-stage cancers. Both approaches are highly effective when used in their respective target populations [Bianchi et al., 2018]. On the other hand, screening for colorectal cancer (CRC) was among the highest ranked services in an analysis of the value of preventive services based on the burden of disease prevented and cost-effectiveness [Ginsberg et al., 2012]. Screening can prevent CRC by diagnosing and removing a colorectal polyp and find early-stage cancers for treatment with less morbidity, with possibility preventing mortality of such early stage diagnosed and treated pathology. In addition, screening can reduce the burden of treating advanced cancers and can identify families at increased risk. Screening also has provided a better understanding of the biology of CRC, therefore, should be part of a complete prevention program that includes a healthy lifestyle and familial risk assessment [Ginsberg et al., 2012]. There is of utmost importance target population of a screening program and specific test will be used. Future perspectives of screening in a European scenario are related to the will of the policymakers to implement policy on a large scale and to improve the effectiveness of a broad screening of smoking-related disease, including cardiovascular prevention, by measuring coronary calcium score on LDCT [Novellis et al., 2021].

The COVID-19 pandemic was a test of the health care systems resilience worldwide. Consequently, prevention strategies should also address the issue of pandemics, which includes social distancing, behavior change in treatment seeking, and economic and social impact. Strategies should focus on enabling people to increase access to prevention programs and find ways so that pandemic-restricted lifestyles do not exacerbate the health condition of the population. During the most closed of pandemic period, April-May 2020 in Albania none of mammography was performed, being part of

breast cancer prevention program [Together for life 2021]. Primary prevention is related with health promotion, which plays important role in reducing risk factors. Health literacy among the population is also essential to amend health inequities and have effective prevention strategies [Archives of Public Health 2019].

AIM OF THE STUDY

The aim of the study is to evaluate cancer prevention program in Albania and provide insights for policy makers' improvement strategies.

This study will address the following research questions:

- 1- Does Albania has drafted policies, strategy and action plan for cancer prevention;
- 2- Does strategy, policies and documents drafted by Ministry of Health and Social Protection reflect rational solutions for prevention, healthcare and treatment of patients with cancer;
- 3- Does Albania has a real time and functional monitoring and evaluation system in place for cancer prevention program in order to assess output of the programme;

MATERIALS AND METHODS

A comprehensive literature search was performed through several electronic databases like: PubMed, WHO, Ministry of Health and Social Protection of Albania, Albanian Institute of Statistics, Institute of Public Health of Albania, The Albanian Supreme Audit Institution, are utilized to search for relevant articles, reports and policy papers (strategy, evaluation reports).

Methodology used is literature review. Search strategy used with keywords: cancer, prevention, policy making, cancer screening, monitoring and evaluation cancer screening program, Albania. Language used for research is: English for international and national database and Albanian for national database.

Period of research is narrowed from y.2000 until 1 July 2024. There were found 13 articles as result of research in PubMed. There are two persons involved in the review process, who are authors of this article. The selected articles were reviewed by two independent reviewers. A data extraction form was established including authors, year of publication, country, specific objectives, study design, and outcomes. Discrepancies between reviewers were discussed between the whole team. Therefore, a result of the quality assurance process there were 8 studies included in the final analysis process, and 5 of articles were excluded because they were under exclusion criteria.

There were followed 5 steps in order to perform literature review: 1) identifying key words or research question; 2) methods followed to identify relevant studies; 3) selection of the studies; 4) summary of the studies; 5) reporting findings.

Based on literature review, as *eligible studies* were those that met the criteria below:

1. Study design: Studies that have evaluated cancer prevention policies and have compared screening interventions;
2. Time of publishing: Studies that have been published after year 2000;
3. Credibility of the study: Studies have been published in PubMed or reliable websites (WHO);
4. Outcomes: Studies that address at least one of the following prevention programs, as breast cancer, cervical cancer and colorectal cancer.
5. Other criteria: Research papers that were published in English language and research team's native languages (Albanian); from any geographical area.

Exclusion criteria are:

- Studies that have used trail study design ;
- Publications that are part of conference abstracts or book chapter;
- Studies that were published before 2000;
- Studies that were published in a language other than English or Albania;

PICOS

Population – There are included females of reproductive age over 18 years old, male over 35 years old (Si je program/How are you program), breast cancer, cervical cancer, colorectal cancer;

Intervention – “Si je program/How are you program” including population of the age 35-70 years old for colorectal cancer, cervical cancer program in primary health care sites, breast cancer national program;

Comparison – Albanian cancer prevention program and strategy is compared with international experience in cancer prevention programs and interventions;

Outcomes – Recommendations for Albanian policy makers regarding cancer prevention program, from evidence-based policy making, monitoring and evaluation system and out-put of the cancer prevention program;

Study – Study included cancer programs intervention review, their quality assurance mechanism and out-put monitoring.

Results

Albanian healthcare system as organizational structure is managed by Ministry of Health and Social Protection of Albania as policy making body, Institute of Public Health offers advice on public health policy and provides technical support and acts as a national research and training centre, and healthcare delivery system composed by primary, secondary and tertiary level [Nuri 2002, Koduzi 2015].

The Sustainable Development Goal 3 explicitly aims to reduce mortality related to non-communicable diseases (NCDs), including cancers that represent a significant public health problem due to their influence on almost every developmental aspect of society [United Nations 2015]. In order to reduce, detect and treat cancer timely, Albania prepared the first National Program for Cancer Control (NPCC) in 2011, which is mainly based on primary prevention, and the main burden is carried by environmental factors and lifestyle, which are included in the vast majority of cancers. The main activities envisaged for the reduction of risk factors were: activities against smoking, against unbalanced nutrition and overweight, sexual and reproductive health awareness and protection in general population focusing on the most vulnerable groups [WHO 2020]. Early detection of cancer is based on the following criteria: high incidence; possibility of detection at an early stage (pre-clinical stage); high curative potential when detected at an early stage; possibility of detection with non-invasive (non-aggressive) methods; low cost of screening methods. NPCC 2011-2020 program set some objectives until 2015, as follows:

- Maintain a standardized breast cancer mortality rate at the year of 2006 levels (22/100,000);
- Reduce the standardized mortality rate from cervical cancers by 5% compared to the year of 2006 level (5.5/100,000);
- Provide coverage with reproductive tract cancer prevention and treatment services in 12 regions of the country;
- Establish a National Program for the Control and Prevention of Cervical Cancer [MoHSPA 2016].

Aligning with NPCC 2011 were prepared Reproductive Health Strategy (RHS) 2017-2021, whereas one of the strategic objectives envisages the prevention, detection and management of reproductive tract cancers, STIs, HIV and AIDS. This strategy consisted of three specific objectives:

1. To establish a National Breast Cancer Screening Program;
2. To strengthen the diagnostic capacity of cervical cancer;
3. To improve the health information system on cancer diseases [MoHSPA 2016].

Following the former strategies and documents, there is prepared and approved the national “Health Strategy, Albania 2021-2030” as a political document of the Albanian Government that aims to define and achieve the objectives of the program for the protection and improvement of the health of the Albanian population [WHO 2021]. This strategy, foresees several specific objectives which contribute in reduction of the risk factors, as main contributors for Non Communicable Diseases, including cancer as well. These specific objectives are:

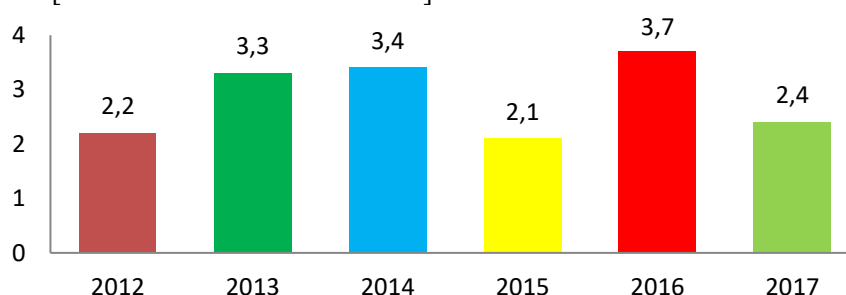
1. Promoting healthy living style and ensuring an healthy environment through empowering inter-sectorial collaboration;
2. Empowering and extension of new vaccination programs and sustainability of vaccine coverage;
3. Reduction of risky behaviours that effect on Non Communicable Diseases (NCD).

In order to achieve the former specific objectives envisaged in “Health strategy, 2021-2030”, and objectives of National Cancer Control Program 2022-2030, Ministry of Health and Social Protection designed program of cancer screening in Albania, in order to contribute in achieving the sustainable development goal 3 “ensure healthy lives and promote well-being for all at all ages”. This plan sets a coverage objective for screening of cervical cancer, breast cancer and colorectal cancer of 50% of the population target. It plans to reduce risk factors like smoking by 20%, alcohol drinking by 10%, declining of obesity, and increase physical activity mostly at children and youth [Ylli et al., 2019].

There are planned and implemented primary and secondary interventions in order to fulfil cancer control program. Primary prevention puts emphasis in health education and reduction of the risk. National plan emphasis reduction of the risk through vaccination of target population, like HPV vaccine in order to prevent cervical cancer, and hepatitis vaccines in order to prevent liver cancer. Secondary prevention through screening programs has in focus cervical cancer, breast cancer and colorectal cancer. Cervical cancer program has started in 2019 in primary healthcare sites, colorectal cancer started in 2015 as part of basic health control, breast cancer program started in 2020 by having in focus population target women of the 50-60 years old [International Cancer Control Partnership 2022]. This action plan takes in consideration cost-effectiveness of screening interventions, but it does not calculate financial lost and benefits of Albanian healthcare system [International Cancer Control Partnership 2022]. The National Cervical Cancer Screening Program (NCCSP) in Albania uses as primary screening examination the high risk HPV testing. The initial program targets were women 40-50 years old. The goal is to provide within five years, all women in this age group, high risk Human Papilloma Virus (HPV) screening tests, as part of the routine examinations done at primary health care (PHC) centres. The goal of the screening program will improve identification of women who are at higher risk for cervical cancer, detect in time the pre-cancer lesions, and treat them accordingly [Institute of Public Health of Albania 2020]. Albania has introduced Human Papilloma Virus (HPV) screening at the primary healthcare level, based on the collaboration among gynaecologists, public health professionals, and other primary healthcare physicians. The recent implementation and the heterogeneity of HPV vaccination coverage programs might help explain the overall increase of years of healthy life lost due to disability - YLD rates in Albania by 2019 and 2030 [Todorovic et al., 2023].

Besides the Ministry of Health and Social Protection as policy making institution, there are Institute of Public Health (IPH) and Albanian Supreme Audit Institution (ALSAI) as two bodies which monitor the performance of health status of population and institutions performance in general, they audit performance and output of the cancer prevention program as well. IPH monitor performance of the program through quantitative indicators, which are made public through different reports, as follow: Albanian National Cervical Cancer Program evaluation report of the first year 2020 [Institute of Public health 2020], National report on cancer diseases 2021 [Institute of Public health 2021], control of breast cancer in Albania 2012-2018 [Ylli et al., 2019].

According to country official data, the average mortality rate of cervical cancer for the period 2013-2017 in Albania is 2.9/100,000 and the incidence rate for the year 2015 (the first year, the national cancer registry has started to operate) is 9.2/100,000. The mortality/incidence ratio for cervical cancer in Albania is 32% [Institute of Public Health 2020].



Graph no.2: Time trend mortality rate for cervical cancer in Albania (/100,000 populations) [Source: Institute of Public Health 2020]

There is a fluctuation of the mortality rate from cervical cancer in Albania during period 2012-2017, from 2.2 in 2012 reached peak to 3.7 per 100 000 in 2016 and dropped to 2.4 in 2017 (graph no.2) [Institute of Public Health 2020]. It is estimated that every year in Albania 2,000-3,000 healthy and productive life years are lost from cervical cancer related disease and death. In a conservative estimate, cervical cancer has costed Albanian society at least 5 000 000 US dollars yearly, because of productivity loss and health system related costs. Additionally, treatment to cervical cancer in Albania is estimated to cost, around 1 300 000 USD per year [Institute of Public Health 2020].

In Albania, the lowest disability adjusted life years - DALY rates associated with breast, colon and rectal cancer, and as well that these rates increased over the 30 years, between 1990 and 2019, respectively 135.98% and 123.54%, and that will continue to grow by 2030 unless the cancer prevention and control strategies are better implemented [Todorovic et al., 2023].

According to IPH, average age of persons in the moment of establishing the breast cancer diagnose in Albania is 55 years old, and average age of death is 76.7 years old. Death incidence rate for breast cancer is 32% for the year 2018. According to national Cancer registry, in year 2018 there were 708 new cases of breast cancer in Albania [International Cancer Control Partnership 2022]. In order to address that, Albania approved in 2020 the National Programme of Screening based on which, every woman of the age 50-60 years old will be invited to perform every 2 years mammography. It is expected that every year 40,000 women will become part of the screening programme [International Cancer Control Partnership 2022].

Type of cancer	2015		2016		2017		2018		2019	
	No	Inc.	No	Inc.	No	Inc.	No	Inc.	No	Inc.
1 Lung	777	27	802	27.9	862	30	854	29.8	850	29.8
2 Breast	653	46	698	49.2	713	50	708	49.4	719	50.3
3 Endometrial	262	18.4	198	13.9	185	13	147	10.3	146	10.2
4 Colorectal	233	8.1	328	11.4	430	15	399	13.9	386	13.5
5 Nervous system	225	7.8	293	10.2	251	8.7	259	9	323	11.3
6 Stomach	214	7.4	215	7.5	277	9.6	253	8.8	281	9.8
7 Cervical cancer	133	9.4	123	8.7	127	8.9	126	8.8	133	9.3

*Risk population for reproductive organs is taken in consideration only female or male according to origin of the cancer

Table no. 1: Incidence distribution (per 100,000 populations*) of cancers for 2015-2019 [Source: Institute of Public Health 2021]

Despite the various prevention interventions in order to early detect breast cancer, colorectal and cervical cancer, it seems that incidence has remained almost the same during the period 2015-2019 (table no 1) [Institute of Public Health 2021]. Implementing a strategic plan involves a series of steps that help ensure the organization can achieve its goals. There are six steps to implementing a health care organization's strategic plan (figure no.1):

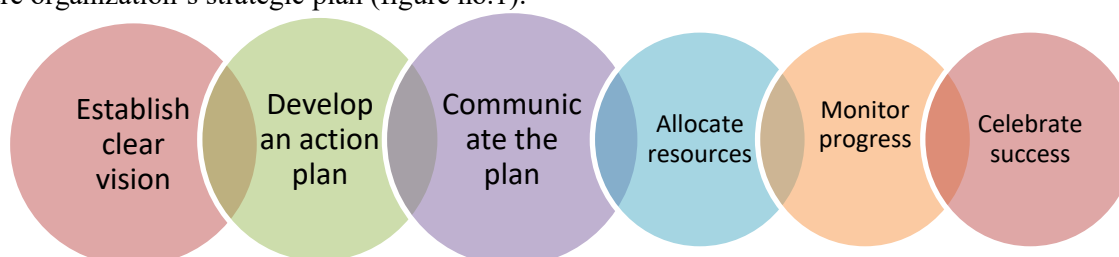
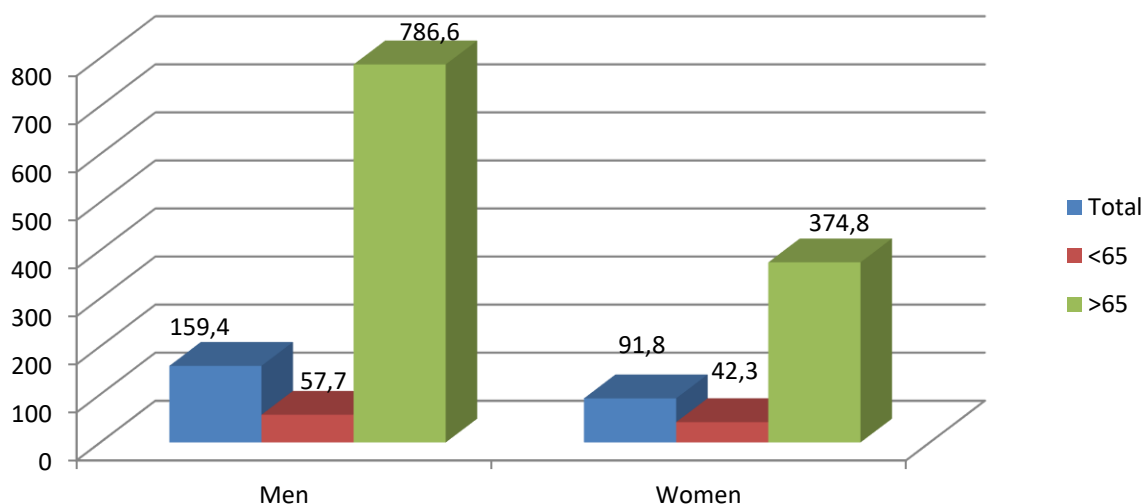


Figure no.1: Implementing a health care organization strategic plan [Source: The University of Arizona Global Campus 2023]

After establishing the vision and mission, the organization needs to develop an action plan that outlines the specific steps it will take to achieve its goals. This plan should include a timeline, specific objectives, and measurable outcomes. The organization must track progress toward its goals, measure outcomes, and adjust the plan as needed. This helps ensure the organization stays on-track and can

make adjustments as needed [The University of Arizona Global Campus 2023]. Monitoring and evaluation are the processes that allow policy-makers and programme managers to assess: how an intervention evolves over time (monitoring); how effectively a programme was implemented and whether there are gaps between the planned and achieved results (evaluation); and whether the changes in well-being are due to the programme and to the programme alone (impact evaluation) [International Labour Organization 2015].

For that purpose, Monitoring and Evaluation (M&E) of Breast Cancer Screening Programmes selected 13 indicators: screening coverage, participation rate, recall rate, breast cancer detection rate, invasive breast cancer detection rate, cancers > 20 mm, cancers ≤ 10 mm, lymph node status, interval cancer rate, episode sensitivity, time interval between screening and first treatment, benign open surgical biopsy rate, and mastectomy rate [Muratov et al., 2020]. Taking in consideration official reports regarding breast cancer prevention programme in Albania, there are used just simple indicators, as: number of new cases each year, number of people hospitalized each year, level of deaths of cancer, death rate, number of mammography performed, and there is not any of the above mentioned 13 indicators [Yili et al., 2019]. Even Institute of Statistics (INSTAT) as national institution responsible for reporting statistics for Albania, report simple data on cancer disease, as number of deaths by age group and gender (graph no.3).



Graph no. 3: Number of deaths per 100,000 populations, because of cancer by gender and age group in 2019 [Source: INSTAT 2019]

As mentioned earlier, ALSAI has audited performance and output of the cancer prevention program for the period 2020-2022. ALSAI has audited the performance of every link of the institutions chain that have input in cancer prevention program, starting with Ministry of Health and Social Protection - MHSP, IPH, and screening programs. Auditing has concluded the lack of the transparent and comprehensive system for measuring, monitoring and reporting about progress towards fulfilment of objectives. Report states lack of measuring the impact of treatment of cancer patients in the function of increasing life expectancy and decrease of mortality [ALSAI 2023]. Oncological hospital and cancer patient's treatment units in regional hospitals use SISP as database to record cancer patients for treatment, including medication, examinations, timetable of consultation, and destination of patients for treatment, hospitalization and discharge from hospital. There is lack of analysis from SISP system by age group, type of disease and cost of treatment by hospitals [ALSAI 2023]. On the other hand, MHSP has not done an evaluation of the impact of National Program of Cancer Control 2011-2020, there are no reports of monitoring and evaluation of cancer situation 2021-2022, and on top of them, National registry of cancer does not have updated data on new cases, progress of cancer disease and mortality [ALSAI 2023].

In respect of some screening programs, like Pap Test, it is real evidence in everyday clinical practice in Albania that such a screening test has failed to be done as such screening test in public institutions

especially last 15 years, because of lack of organisation, infrastructure and human resources. Mostly is performed in private practice upon clinical assessment of gynaecologist or upon request from very few well informed women. In Albania unfortunately Pap Test even it is a simple procedure to perform, is done only by gynaecologist, that in recent years there has been lack of gynaecologist and almost none histopathologist in municipality hospitals and regional hospitals, so making the cervical cancer screening program via pap test fail. In Tirana, capital city of Albania, there are all Tertiary/University Hospitals and mostly pap test is done through private sector as per clinical indication.

While some other programs in clinical practice like colonoscopy and mammography are done somehow, nevertheless no where to the level should be, for example for mammography mostly draws attention in October as a sensibilisation month of breast cancer, where there are primary health facilities and municipality hospitals that do not have the infrastructure, equipment and qualified medical staff to do such examination. However, recently the HPV vaccine has started to be implemented and we have to see the progress and outcome in later years.

Apart from the political framework, programs, and monitoring of cancer prevention interventions, there are few publications regarding prevention culture and primary health care services in Albania. The scope of the “Si je (How are you)?” programme was to assess health status of eligible individuals on a yearly basis in six priority areas highlighted as high priority by the Albanian Institute of Public Health, whereas NCD risk factors: tobacco use, harmful use of alcohol, unhealthy diet and physical inactivity are screened, and faecal occult blood test is used to detect colon cancer [Ylli et al., 2021]. Studies show that during y.2016 there are performed 2637 faecal blood tests and 0.8% of them resulted positive. The programme has helped improve access and build more awareness about preventive care among the Albanian population [Ylli et al., 2021]. On the other hand, study shows some findings for prevention culture in several levels: community-level: local cultural attitudes, access barriers, neighbourhoods, religion; national-level: national policies, interest groups, support for program; and international-level: role of multinational programs in training, sustainability and evaluation. On international level it is important in a limited human resource situation in Albania, international guidance and expertise, like from WHO, and shaping a public health mentality and providing training to Albanian public health experts remain important for unbiased evaluative efforts of large national programs such as these [Sentell et al., 2018].

During the COVID-19 pandemic there is highly affected the chain of screening, diagnosis, treatment, rehabilitation and palliative services for non communicable diseases. Pressure over healthcare services and system will be increased in time [Together for life 2021]. Highly integrated programmes, those with highly integrated communication networks, and that managed greater portions of the screening process seemed best positioned to respond to the crisis. The Nimble Approach (fast, adapting, calculating and ethically mindful approach) has potentially broad applications; it can be deployed to effectively respond to programme-specific challenges or manage CRC programmes during future pandemics, other health crises or emergencies [Baxter et al., 2021].

DISCUSSIONS

Albania has drafted several policy papers in order to reach the Sustainable Development Goal 3, which explicitly aims to reduce mortality related to non-communicable diseases (NCDs), including cancers that represent a significant public health problem due to their influence on almost every developmental aspect of society [Ministry of Health and Social Protection 2016]. In order to reduce, detect and treat cancer timely, Albania drafted the first National Program for Cancer Control (NPCC) in 2011, which is mainly based on primary prevention, and the main burden is carried by environmental factors and lifestyle, which are included in the vast majority of cancers. The main activities envisaged for the reduction of risk factors were: activities against smoking, against unbalanced nutrition and overweight, protected sex in the general population focusing on the most vulnerable groups [WHO 2011]. Aligning with NPCC 2011 were prepared Reproductive Health Strategy (RHS) 2017-2021, whereas one of the strategic objectives envisages the prevention, detection and management of reproductive tract cancers, STIs, HIV and AIDS.

Population-based screening of individuals at risk for some of the common cancers can significantly reduce the incidence (for selected cancers, such as cervical cancer and colorectal cancer) and the mortality from the cancers targeted by screening [WHO 2023]. In order to fulfil the specific objectives envisaged in “Health strategy, 2021-2030”, and objectives of National Cancer Control Program 2022-2030, Ministry of Health and Social Protection designed cancer screening program in Albania, in order to contribute in achieving the sustainable development goal 3 “ensure healthy lives and promote well-being for all at all ages”. This plan sets a coverage objective for screening of cervical cancer, breast cancer and colorectal cancer of 50% of the population target. It plans to reduce risk factors like smoking by 20%, alcohol drinking by 10%, stop increasing of obesity, and increase physical activity mostly at children and youth [Ylli et al., 2019].

According to country official data, the average mortality rate of cervical cancer for the period 2013-2017 in Albania was 2.9/100,000 and the incidence rate for the year 2015 (the first year, the national cancer registry has started to operate) was 9.2/100,000. The mortality/incidence ratio for cervical cancer in Albania is 32% [Institute of Public Health 2020].

In Albania, the lowest DALY rates associated with breast cancer and with colon and rectum, and add to it that these rates increased over the 30 years, between 1990 and 2019, at 135.98% and 123.54%, respectively and that will continue to grow by 2030 unless the cancer prevention and control strategies are better implemented [Institute of Public Health 2021]. According to IPH, average age of persons in the moment of establishing the breast cancer diagnose in Albania is 55 years old, and average age of death is 76.7 years old. Death/ incidence rate for breast cancer is 32% for the year 2018. According to national Cancer registry, in year 2018 there were 708 new cases of breast cancer in Albania [Ylli et al., 2019].

Auditing has concluded the lack of the transparent and comprehensive system for measuring, monitoring and reporting about progress towards fulfilment of objectives. Report states lack of measuring the impact of treatment of cancer patients in the function of increasing life expectancy and decrease of mortality. There is lack of analysis from SISP system by age group, type of disease and cost of treatment by hospitals [ALSAI 2023].

On the other hand, MHSP has not done an evaluation of the impact of National Program of cancer control 2011-2020, there are no reports of monitoring and evaluation of cancer situation 2021-2022, and on top of them, National registry of cancer does not have updated data on new cases, progress of cancer disease and mortality [ALSAI 2023]. Assessment of the effectiveness of these programs is critical to their success as this is the only way to ensure that the benefits of screening outweigh the harms [Rabeneck & Landsdorp-Vogelaar 2015].

A functioning health information system (HIS) that collects at least a core set of data in a consistent manner to assess the status of implementation and performance of the programme is key to ensure the quality of the screening programme. The systematic reporting of the characteristics and the outcome (defined by performance standards and monitored and evaluated using indicators) is mandatory for the continuous quality improvement of the programme [WHO 2023]. Using information from these data tables, early performance indicators can be generated (e.g., participation rate, proportion of screen-detected cancers that are early-stage). Subsequently, modelling the natural history of the disease can be very helpful to estimate long-term outcomes, making use of these directly measured early performance indicators. Modelling can also be used to estimate the cost-effectiveness of a screening program and the potential impact of changes in policy [Rabeneck & Landsdorp-Vogelaar 2015]. As the policy decision-making process is variable and difficult to evaluate, it is often unclear how this heterogeneous evidence is identified and incorporated into “evidence-based policy” decisions [Geddie et al., 2012].

In addition, if we compare published data from Greece, an estimated 62 500 new diagnoses of cancer were expected in Greece in 2020, corresponding to age-standardised incidence rate of 526 new cases per 100 000 population, which is lower than the EU average. However, the reductions in cancer mortality have been slower in Greece than in the EU. Overall, cancer in Greece accounted for 1 in 4 deaths in 2019, with lung cancer being the main cause of death by any type of cancer. [OECD 2023]. Overall, during 2000 and 2018 in Greece, potential years of life lost due to malignant

neoplasms saw the lowest relative decrease among EU countries of around 10 %, and it accounted for 1 322 years of life lost among 100 000 people aged up to 75 years in 2019. The relative decrease was larger among men (14 %) than women (4 %), with 1 599 and 1 074 years of life lost in 2018, respectively. [OECD 2023]

While, in North Macedonia HPV vaccine has been incorporated into regular schedule of immunization vaccine program, and has extended for both girls and boys up to 19 years old, in Albania we have less than 5 years. Cancer is the second most common reason for death in North Macedonia. Lung cancer remains the leading cause of cancer death, representing 12,9% of all cancer incidents. It affects primarily men; in the period 2010 - 2020, the mortality for bronchus and lungs cancer has been increasing ranging from 64.8 in 2010 to 66.9 in 2014 and 67, 6 per 100,000 men in 2020[Ferlay et al., 2024]. Colorectal cancer accounts for 5,8% of all cancer incidents and only 14% of these are discovered at an early stage. North Macedonia has not yet developed a systemic screening of colorectal cancer for the whole territory. So far, only a screening programme for Skopje has been put in place, and it is based on Faecal Occult Blood Test (FOBT), which faces some important accuracy challenges. [Ferlay et al., 2024].

Cervical cancer prevention program in Albania has started in 2019 in primary healthcare sites, colorectal cancer started in 2015 as part of basic health control, breast cancer program started in 2020 by having in focus population target women of the 50-60 years old [Institute of Public Health 2020]. The number of cancer cases in Croatia is expected to rise along with the number of cases globally, mostly because of aging population, from 2001 to 2015 the average number of patients increased by 1% on year-to-year basis, with the help of age-standardized incidence in Croatia, we can see that the increase of incidence independent of aging population [Croatian Institute of Public Health 2015]. The average age-standardized incidence in Croatia from 2001 to 2015 increased 0,63 % for women, but decreased 0,23% for men. The most common cancer in men is lung cancer, whilst in women it is breast cancer. It is also expected for prostate cancer to become most common cancer in men in the near future. Five most common cancer sites account for more than half of all cases in both genders. Malignant diseases are the second most common cause of death (after cardio-vascular diseases), they were responsible for 26% of deaths in Croatia in 2017. With people under the age of 65 it is the leading cause of death, and cause 50% of deaths in women and 35% in men. The latest official data in Croatia says that in 2017 the number of people who died from invasive cancer (not including non-melanoma skin cancer) in total was 13 .638 (330,7/100 .000 rate), of which 7 .789 male (391,3/100 .000 rate) and 5 .849 female (274,1/100 .000 rate). [Croatian Institute of Public Health 2015].

The programme “Si je (How are you)?” started in 2014 aim to assess health status of eligible individuals on a yearly basis in six priority areas, one of the colorectal cancers. Studies show that during y.2016 there are performed 2637 faecal blood tests and 0.8% of them resulted positive [Ylli et al., 2021]. The awareness of the importance of screening, access to screening and coverage must be improved, along with the timely treatment and care continuum, to help countries prevent the enormous losses of healthy lives and premature mortality [Todorovic et al., 2023]. According to IPH, average age of persons in the moment of establishing the breast cancer diagnose in Albania is 55 years old, and average age of death is 76.7 years old. Death/ incidence rate for breast cancer is 32% for the year 2018. According to national Cancer registry, in year 2018 there were 708 new cases of breast cancer in Albania [Ylli et al., 2019]. In order to address that, Albania approved in 2020 the National Programme of Screening based on which, every woman of the age 50-60 years old will be invited to perform every 2 years mammography. It is expected that every year 40,000 women will participate in screening programme [International Cancer Control Partnership 2022]. In other studies, the scenarios analysis indicated that the recommended screening age interval of 45 to 70 is suitable for the urban Chinese women. From the prevention point of view, the results showed that biennial mammography has the potential to reduce breast cancer deaths and to achieve more life year compared with not performing screening. Regarding the screening starting age, scenarios starting from a younger or older age did not contribute to more life years compared to the base scenario

(starting from age 40). These findings provide useful evidence on screening cost-effectiveness and are of importance for the optimization of BC screening strategies in China[Wang et al., 2022].

The National Cervical Cancer Screening Program (NCCSP) in Albania uses as primary screening examination the high risk HPV testing. The initial program targets were women 40-50 years old. The goal is to provide within five years, all women in this age group, high risk Human Papilloma Virus (HPV) screening tests, as part of the routine examinations done at primary health care (PHC) centres. The goal of the screening program is to improve identification of women who are at higher risk for cervical cancer, detect in time the pre-cancer lesions, and treat them accordingly[Institute of Public Health 2020]. In Sub-Saharan Africa and South East Asia, certain interventions in cervical cancer control (screening through cervical smear tests or visual inspection with acetic acid in combination with treatment) and colorectal cancer control (increasing the coverage of treatment interventions) cost <\$Int2000 per DALY averted and can be considered highly cost effective[Ginsberg et al., 2012].

During the COVID-19 pandemic there is highly affected the chain of screening, diagnosis, treatment, rehabilitation and paliative services for non communicable diseases. Presure over healthcare services and system will be increased in time[Together for life 2021]. Highly integrated programmes, those with highly integrated communication networks, and that managed greater portions of the screening process seemed best positioned to respond to the crisis. The Nimble Approach has potentially broad applications; it can be deployed to effectively respond to programme-specific challenges or manage CRC programmes during future pandemics, other health crises or emergencies[Baxter et al., 2022].

Strengths and weakness of the study

Strengths: contribution to reviewing cancer prevention policies and program in Albania; contribution to evidence based policy making for decision makers; critical review of breast cancer, cervical cancer and colorectal cancer programs in order to improve out-put of them; bringing international experiences in cancer prevention in the Albanian contest.

Weakness: Small pool of international studies regarding cancer prevention; small number of studies for evaluation of Albanian cancer prevention intervention, this study does not evaluate all process of cancer prevention, from policy making process to out-put; literature review does not include worldwide experience; study evaluates implementation activities in three major cancer prevention programs, as breast, cervical and colorectal cancer.

Conclusions:

Albania has initiated important intervention for cancer prevention since 2011, by preparing national program, implementing screening interventions for breast cancer, cervical cancer and colorectal cancer. Despite some interventions towards cancer prevention, it is needed to build a monitoring and evaluation system which will help to assess the status of implementation and performance of the programme, as crucial not only to ensure the quality of the screening programme but even to monitor fulfilment of the objectives set in policy papers. Improvement of National Registry of Cancer and Reporting System, in order to supply updated data on new cases, progress of cancer disease and mortality, cost of treatment, for assessment of the effectiveness of these programs in order to ensure that the benefits of screening, and incorporate into "evidence-based policy" decisions.

MoH needs to improve policy making process regarding cancer prevention, by collecting data not only from formal databases (National Cancer registry) in order to evaluate the impact of previous interventions, but even through population based studies in order to have clearer picture of the situation and get feedback from beneficiary groups.

Recommendations:

In order to achieve a standard of such important health components, such a Cancer Program Screening, Monitoring and Reporting, we recommend:

1. The establishment of a Cancer Institute within the frame of Ministry of Health and Social Protection that will work independent institution that will provide real evidence-based data, protocols and assist in cancer policy implementation.
2. Cancer Institute should have a board with all significant stakeholders (patient representatives, payer's representatives, representatives of different medicine disciplines important for cancer care, other health professionals involved in cancer care, education and research).

3. The role of the Cancer Institutes should be;
 - a. Continuously monitor and timely report all important and predefined activities of NCCP,
 - b. Adopt responsibility for implementation of the screening programs,
 - c. Coordinate the work of all stakeholders that can contribute to cancer plan implementation, to ensure the best use of available resources for the NCCP implementation.
 - d. Contribute to influence and implement legislative changes defined in the NCCP,
 - e. Supervise public education and participation on anticancer subjects,
 - f. Manage professional education and development of planned activities in the NCCP,
 - g. Direct development of national diagnosis and treatment guidelines, monitor cancer research activities defined in the NCCP
 - h. Supervise the development and function of the National Comprehensive Cancer Network,
 - i. Monitor quality of cancer registry and of national cancer database,
 - j. Manage complete cancer information systems,
 - k. Oversee primary and secondary cancer prevention programs,
 - l. Monitor development of diagnostic processes defined in the NCCP to allow the appropriate cancer treatment to all patients,
 - m. Monitor cancer treatment activities defined in the plan (radiotherapy network creation,
 - n. Influence with statistical, clinical and scientific data arguments and cost-effectiveness as well for a modern infrastructure/equipment in public healthcare sector in diagnostic and treatment like; PET Scan and linear accelerators, Hyperthermic intraperitoneal chemotherapy (HIPEC), and other up to date of therapies.
 - o. Manage the supportive and palliative care development.
4. Reporting of the results of the monitoring process is equally important, should publish, make publicly available, results of all monitoring activities continuously.
5. To facilitate the establishment of a Cancer Institute, a Technical Group of Experts should be appointed by the MHSP with representatives of governmental and non-governmental organizations and chaired by a national and international experts of the respective fields.

Conflicts of interest

The authors declare no conflict of interest.

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